



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|----------------------------------|-----------------------------|
| 10/510,993 | 10/12/2004 | Winfried Stubbe | PAT-01026 | 8766 |
| 26/922 | 7590 | 05/01/2008 | | |
| BASF CORPORATION Patent Department 1609 BIDDLE AVENUE MAIN BUILDING WYANDOTTE, MI 48192 | | | EXAMINER EGWIM, KELECHI CHIDI | |
| | | | ART UNIT 1796 | PAPER NUMBER |
| | | | NOTIFICATION DATE 05/01/2008 | DELIVERY MODE ELECTRONIC |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

LORLHASS@BASF.COM
MARJORIE.ELLIS@BASF.COM
ANNE.SABOURIN@BASF.COM



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/510,993
Filing Date: October 12, 2004
Appellant(s): STUBBE ET AL.

Anna M. Budde
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 03/03/2008 appealing from the Office action mailed 07/05/2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is deficient. 37 CFR 41.37(c)(1)(v) requires the summary of claimed subject matter to include: (1) a concise explanation of the subject matter defined in each of the independent claims involved in the appeal, referring to the specification by page and line number, and to the drawing, if any, by reference characters and (2) for each independent claim involved in the appeal and for each dependent claim argued separately, every means plus function and step plus function as permitted by 35 U.S.C. 112, sixth paragraph, must be identified and the structure, material, or acts described in the specification as corresponding to each claimed function must be set forth with reference to the specification by page and line number, and to the drawing, if any, by reference characters. The summary of claimed subject matter contained in brief is deficient

because it recites a dispersion "comprising four components", which is not language recited or required or defined in the rejected independent claim 1. Four separate independent components are not required in the rejected independent claim 1. Also appellant goes on to include limitations from the specification not recited in the claim, such as with regard to the components of the aqueous dispersion. Appellant's invention is sufficiently represented in independent claim 1, as actually claimed.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,599,631

KAMBE ET AL.

7-2003

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:
Claims 1 and 3-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Kambe et al.

In col. 1, lines 54-60, col. 2, lines 22-29, col. 5, lines 31-40, col. 6, lines 29-47 and col. 19, lines 33-45 and 59-67, Kambe et al. teach an aqueous dispersion, for preparing a composite, comprising a hydrophilic (swellable) polymer, such as polyacrylic acid or polyamide, and inorganic nanoparticles (see col. 6, lines 19-21), exemplified by Titanium Oxide stabilized in an aqueous dispersion at a pH of about 7

(col. 19, line 45 and 66), wherein the nanoparticles are surface functionalized by linker compounds that are polyfunctional crosslinking compounds (col. 2, lines 39-41). In addition to functioning as the surface functionalizing agents of the particles, these linker compounds also satisfy the requirements for the presence of **at least one** crosslinking agent (see col. 5, lines 31-34). Said linker compounds are also described by Kambe et al. as having ligand chelating properties, and would satisfy the requirement for **at least one** compound capable of forming chelate ligands (col. 5, lines 34-38).

Exemplary preferred linker compounds are identified in col. 14, lines 14-29, as including compounds with polyvalent groups (Si) functionalized with both groups suitable for bonding with the polymer (R4) and hydrolysable groups (R1, R2, R3), thus being at least consistent with the general formula (i) of the present claim 1, wherein $o=1$, $m=1$, $n=0$ and $p=3$.

It is noted that, contrary the Appellant's summary in the appeal brief, the present claims do not require the crosslinking agent or the compound capable of forming the chelating ligand to be independent and separate from either the polymer or the inorganic particle.

Claim 2 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, 35 U.S.C. 103(a) as being unpatentable over Kambe et al.

While Kambe et al. may not expressly teach the electrophoretic mobility properties in the claimed dispersion, it is reasonable that the dispersion of Kambe et al. would possess the presently claimed properties since the composition of the dispersion

in Kambe et al. is essentially the same as the claimed composition and the USPTO does not have at its disposal the tools or facilities deemed necessary to make physical determinations of the sort. In any event, an otherwise old composition is not patentable regardless of any new or unexpected properties. In re Fitzgerald et al, 619 F.2d 67, 205 USPQ 594 (CCPA 1980). See MPEP § 2112 - § 2112.02.

Even if assuming that the prior art references do not meet the requirements of 35 U.S.C. 102, it would still have been obvious to one of ordinary skill in the art, at the time the invention was made, to arrive at the same inventive composition because the disclosure of the inventive subject matter appears within the generic disclosure of the prior art.

(10) Response to Argument

Regarding appellant's argument that Kambe fails to teach a separate crosslinker along with separate modified nanoparticles and a separate compound capable of forming a chelating agent, it is noted that this "separate" feature upon which appellant relies is not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See In re Van Geuns, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

The claims require (A) at least one swellable polymer and/or oligomer, (B) a surface-modified, cationically stabilized, inorganic nanoparticles, (C) at least one compound selected from the group consisting of amphiphiles and organic compounds which are capable of forming chelate ligands, and (D) at least one crosslinking agent, in the dispersion. The claims must be interpreted as broadly as is reasonable and there is

Art Unit: 1700

no language in the present claims prohibiting a single compound from meeting more than one of these requirements or functioning in the capacity of more than one of the components, if it is present in said dispersion.

As appellant is now attempting to redefine their invention (see the Summary in the Brief), appellant has had ample opportunity to include such "separate" language in their claims in order to incorporate this limitation into the claims, and has chosen not to do so. The claims cannot now be reinterpreting by reading limitations in the specification (or examples) that are not claimed into the claims.

Regarding appellant's argument that, in the dispersion, the particles are not surface modified, appellant is directed to col. 6, lines 28-30, where Kambe et al. teach that prior to forming the composites, the dispersion is prepared wherein the inorganic particles are surface modified with one or more of the linker compounds. Thus, the particles are surface modified prior to combination with the polymer in the dispersion.

Regarding the argument that the aqueous dispersion of Kambe et al. is only "a brief intermediate", this does not change the fact that the "brief intermediate" aqueous dispersion of Kambe et al. meets the requirements for the presently claimed aqueous dispersion.

Regarding the argument that "nowhere does the Kambe reference disclose nanoparticles modified with at least one compound of formula (I)", as cited above, the preferred linker compounds used to surface modified the nanoparticles do meet the

structural requirements of general formula (I) of the present claim 1. See col. 14, lines 14-29.

Country to appellant's argument, there is no language in the present claims prohibiting the linker molecules from bonding directly to an unmodified inorganic particle to form the modified inorganic particle, prior to combination with the polymer in the dispersion as is taught in Kambe et al., and the present claims, while requiring the presence of at least one crosslinking agent (already met by the linker compounds), does not require the presence of a "separate crosslinker", distinct from the crosslinking particles-functionalizing agents, within the dispersion.

Regarding the argument that the specification disclosed the crosslinking agent as containing groups that are reactive with at least one of the components in the dispersion, such as the polymer, this does not represent a distinction between the present claims and Kambe et al. The linker compounds are still reactive with the polymer, even as they functionalize the nanoparticles (see above). In any regard, limitations disclosed in the specification and/or examples, but not required by the claims, are not read into the claims during prosecution of the claims.

Regarding the compound having chelating ligand properties, Kambe et al. teach the linker compounds to have ligand chelating properties (see col. 5, lines 34-38). Thus, the dispersion of Kambe et al. comprises at least one the compound having chelating ligand properties, and is consistent with the rejected claims.

The language requiring the compound of formula I, crosslinker, and compound having chelating ligand properties to be separate and different components of the

claimed dispersion is simply missing from the rejected claims and cannot be read into the claims from the specification.

Regarding dependent claim 2 and the arguments against the 102/103 rejections, as demonstrated above, appellant's claims simply do not recite the features being presented as representative of appellant's invention, i.e., the "three separate" components in combination. As the "intermediate dispersion" of Kambe et al. meets the compositional requirements of the present claims, there is no need to add any missing subject matter in order to reject the claims.

Kambe et al. still teach the desired embodiment wherein linker compounds are first used to functionalized the inorganic particles, forming surface functionalized inorganic particles, prior to combining said functionalized inorganic particle with the hydrophilic polymers (See col. 6, lines 28-35), wherein the preferred linker compounds used to surface modified the nanoparticles meet the structural requirements of general formula (I) of the present claim 1. See col. 14, lines 14-29.

In response to appellant's argument that the aqueous dispersion of Kambe et al. is reacted to form a composite, a recitation of the intended use of the claimed invention must still result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art.

Finally, while Kambe et al. may not expressly teach the electrophoretic mobility properties of dependent claim 2, it is still reasonable that the dispersion of Kambe et al.

Art Unit: 1700

would possess the presently claimed properties since the composition of the dispersion in Kambe et al. is essentially the same as the claimed composition and the USPTO does not have at its disposal the tools or facilities deemed necessary to make physical determinations of the sort. In any event, an otherwise old composition is not patentable regardless of any new or unexpected properties. In re Fitzgerald et al, 619 F.2d 67, 205 USPQ 594 (CCPA 1980). See MPEP § 2112 - § 2112.02.

Even if assuming that the prior art references do not meet the requirements of 35 U.S.C. 102, it would still have been obvious to one of ordinary skill in the art, at the time the invention was made, to arrive at the same inventive composition because the disclosure of the inventive subject matter appears within the generic disclosure of the " prior art.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

KCE

/Dr. Kelechi C. Egwim/
Primary Examiner, Art Unit 1796

/David Wu/
Supervisory Patent Examiner, Art Unit 1796

/Gregory L Mills/
Supervisory Patent Examiner, Art Unit 1700